SEQUENCE LISTING

<110> I. du Pont de Nemours and Company

<120> Genes Encoding Sulfate Assimilation Proteins

<130> BB-1167-B

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<150> 60/092,833
<151> 1998-07-14

<160> 14

<170> Microsoft Office 97

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<211> 890
<212> DNA
<213> Zea mays

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agggtctgct gaaccagaag ggctgcgtcg tgtggatcac tggcctaagc ggttcaggga 180
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tcctcgacgg cgacaacctc aggcacgggc tgaacaggga cctcagcttc ggagcagagg 300
accgcgccga gaacatccgc agagtagggg aagtagcgaa gctgttcgcc gacgctggcc 360
tcgtctgcat cgccagcctc atatcgccct acagaagcga ccgaagcgcg tgtcgcgatc 420
tgctgcccaa gcactcgttt atcgaggtgt tcctggacgt gccgcttcaa gtgtgcgaag 480
ccagggaccc caaaggcctc tacaagctcg cacgcgccgg caaaatcaaa gggttcaccg 540
gcatcgacga tccttacgaa ccgccgtcgg actgtgagat agtgatccag tgtaaagtcg 600
gcgactgccc ttcgcctgaa tcgatggctg gtcacgttgt gtcgtacctt gagacgaatg 660
gtttcctcca ggactagaca tggaatgcga tcgatgcgtc tgatgtgtat atatgtagca 720
gcagccggag cggcattgcc aaggctgtgt aatctcatgg ctgtctttct ctttaagacc 780
aaaacaaaca agagatggca gtgtaaaaag gaaaaaaaaa actgcgtctg acagagtcgc 840
tgaatcaacc atgcttctga taaaaaaaaa aaaaaaaaaa aaaaaaaaaa 890

<210> 2
<211> 224
<212> PRT
<213> Zea mays

<400> 2
Ser Ala Ala Ala Ala Val Ala Gly Ile Ser Ser Ser Ser Ser Ala Leu
1 5 10 15

Val Thr Ser Thr Val Gly Lys Ser Thr Asn Ile Leu Trp His Glu Cys
20 25 30

Ala Ile Gly Gln Lys Glu Arg Gln Gly Leu Leu Asn Gln Lys Gly Cys
35 40 45

Val Val Trp Ile Thr Gly Leu Ser Gly Ser Gly Lys Ser Thr Leu Ala
50 55 60

Cys Ala Leu Ser Arg Glu Leu His Gly Arg Gly His Leu Thr Tyr Val
65 70 75 80

```
Leu Asp Gly Asp Asn Leu Arg His Gly Leu Asn Arg Asp Leu Ser Phe
                 85                  90                  95

Gly Ala Glu Asp Arg Ala Glu Asn Ile Arg Arg Val Gly Glu Val Ala
            100                 105                 110

Lys Leu Phe Ala Asp Ala Gly Leu Val Cys Ile Ala Ser Leu Ile Ser
        115                 120                 125

Pro Tyr Arg Ser Asp Arg Ser Ala Cys Arg Asp Leu Leu Pro Lys His
    130                 135                 140

Ser Phe Ile Glu Val Phe Leu Asp Val Pro Leu Gln Val Cys Glu Ala
145                 150                 155                 160

Arg Asp Pro Lys Gly Leu Tyr Lys Leu Ala Arg Ala Gly Lys Ile Lys
                165                 170                 175

Gly Phe Thr Gly Ile Asp Asp Pro Tyr Glu Pro Pro Ser Asp Cys Glu
            180                 185                 190

Ile Val Ile Gln Cys Lys Val Gly Asp Cys Pro Ser Pro Glu Ser Met
        195                 200                 205

Ala Gly His Val Val Ser Tyr Leu Glu Thr Asn Gly Phe Leu Gln Asp
    210                 215                 220
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<210> 3
<211> 1217
<212> DNA
<213> Zea mays

<400> 3

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gagcccagcg cccggcccag ccagccaggg ccaacggcaa ggcaacaccc tcctcagccc  120
gacgccgacg ctcgccgtca tcctcgtaaa tccacagcgc gcgcctcccg tcctcccagg  180
cctcaccccct agcgatgcgc cactcccggc gctcgtgatc catggcctca ctccccgttc  240
ctcacactct tccgcgggtc tcgccagtga tagtgggcgc cgcgagcggg agggccgcgg  300
tgcgcgtacg cactgccacc gcggcattgg gcggtgggtg cggcggcggc ggcggaatgg  360
agcagcgccc gggaaggccc cggcacgccc agtgaaggag aagcctgtaa tgtcgaacat  420
tgggaaatcg actaatattt tatggcacaa ttgcttgatt ggacaatctg atagacagaa  480
attgctgggg caaaaaggct gtgtcgtatg gataacagga ctcagtggtt cagggaaaag  540
tactcttgca tgtgcactga gtcgtgagtt gcattgcaga ggccacctca cgtatgtact  600
tgatggtgac aacctcagac atggcctaaa tagagattta agctttaagg cagaagaccg  660
tgcagaaaat atacgaagag ttggtgaagt ggcaaagctt tttgctgatg ctggtgtcat  720
atgcattgct agcttgatat ctccatacag gagagatcgt gatgcatgcc gtgctctact  780
tccacattct aactttattg aagtatttat tgatttgccc ctaaaaattt gtgaagctcg  840
tgatcctaaa ggcctataca agcttgcacg tacaggaaag attaaaggtt tcactggaat  900
tgatgatcca tacgaaccac caattaatgg tgagatagta attaagatga aagatgagga  960
atgcccttca cccaaagcaa tggccaagca agttctatgc taccttgaag aaaacggata 1020
tttgcaagct tagtatatgt attttgagaa gattgatctg attcttgtgt gtccattact 1080
tgtggacaca ataagatctg ttgttggtca catgaataaa aggcatcaac atgtaggaag 1140
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aaaaaaaaaa aaaaaaa                                               1217
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<210> 4
<211> 343
<212> PRT
<213> Zea mays

<400> 4

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Arg Pro Phe His Phe Ile Asn Gln Thr Glu Pro Leu Val Thr His Thr
 1               5                  10                  15

Gln Gln Pro Pro Ser Pro Ala Pro Gly Pro Ala Ser Gln Gly Gln Arg
            20                  25                  30

Gln Gly Asn Thr Leu Leu Ser Pro Thr Pro Thr Leu Ala Val Ile Leu
        35                  40                  45

Val Asn Pro Gln Arg Ala Pro Pro Val Leu Pro Gly Leu Thr Pro Ser
    50                  55                  60

Asp Ala Pro Leu Pro Ala Leu Val Ile His Gly Leu Thr Pro Arg Ser
65                  70                  75                  80

Ser His Ser Ser Ala Gly Leu Ala Ser Asp Ser Gly Arg Arg Glu Gly
                85                  90                  95

Glu Gly Arg Gly Ala Arg Thr His Cys His Arg Gly Ile Gly Arg Trp
            100                 105                 110

Val Arg Arg Arg Arg Arg Asn Gly Ala Ala Pro Gly Glu Ala Pro His
        115                 120                 125

Ser Pro Val Lys Glu Lys Pro Val Met Ser Asn Ile Gly Lys Ser Thr
    130                 135                 140

Asn Ile Leu Trp His Asn Cys Leu Ile Gly Gln Ser Asp Arg Gln Lys
145                 150                 155                 160

Leu Leu Gly Gln Lys Gly Cys Val Val Trp Ile Thr Gly Leu Ser Gly
                165                 170                 175

Ser Gly Lys Ser Thr Leu Ala Cys Ala Leu Ser Arg Glu Leu His Cys
            180                 185                 190

Arg Gly His Leu Thr Tyr Val Leu Asp Gly Asp Asn Leu Arg His Gly
        195                 200                 205

Leu Asn Arg Asp Leu Ser Phe Lys Ala Glu Asp Arg Ala Glu Asn Ile
    210                 215                 220

Arg Arg Val Gly Glu Val Ala Lys Leu Phe Ala Asp Ala Gly Val Ile
225                 230                 235                 240

Cys Ile Ala Ser Leu Ile Ser Pro Tyr Arg Arg Asp Arg Asp Ala Cys
                245                 250                 255

Arg Ala Leu Leu Pro His Ser Asn Phe Ile Glu Val Phe Ile Asp Leu
            260                 265                 270

Pro Leu Lys Ile Cys Glu Ala Arg Asp Pro Lys Gly Leu Tyr Lys Leu
        275                 280                 285

Ala Arg Thr Gly Lys Ile Lys Gly Phe Thr Gly Ile Asp Asp Pro Tyr
    290                 295                 300
```

```
Glu Pro Pro Ile Asn Gly Glu Ile Val Ile Lys Met Lys Asp Glu Glu
305                 310                 315                 320

Cys Pro Ser Pro Lys Ala Met Ala Lys Gln Val Leu Cys Tyr Leu Glu
                325                 330                 335

Glu Asn Gly Tyr Leu Gln Ala
            340
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<210> 5
<211> 431
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (48)
<223> n = A, C, G or T

<220>
<221> unsure
<222> (346)
<223> n = A, C, G or T

<220>
<221> unsure
<222> (431)
<223> n = A, C, G or T

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gtgccgaagg cgtccaatat cttctggcat gatttgtgca ttggccaggc tgatcggcag 120
aagctactga agcagaaagg ttgcgttgtt tggatcacag gacttagtgg ttcaggtaaa 180
agtaccctgg catgcacatt agatcgagag ctccatacaa gagggaagct ttcttatgtt 240
cttgatggtg ataatttaag acatggtttg aacaaggatc ttggctttaa ggcggaagac 300
cgtgctgaaa atatacgcaa agttggtgag gtagcaaagc tattcncaga tgcaagccta 360
gtatgcattg caagtttcaa atctccctat aagagagaac gtgagtcctg gccctgcaat 420
attgtcaaat n 431

<210> 6
<211> 118
<212> PRT
<213> Oryza sativa

<220>
<221> UNSURE
<222> (98)
<223> Xaa = ANY AMINO ACID

<400> 6
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Ser Ile Val Pro Lys Ala Ser Asn Ile Phe Trp His Asp Cys Ala Val
  1               5                  10                  15

Gly Gln Ala Asp Arg Gln Lys Leu Leu Lys Gln Lys Gly Cys Val Val
            20                  25                  30

Trp Ile Thr Gly Leu Ser Gly Ser Gly Lys Ser Thr Leu Ala Cys Thr
        35                  40                  45
```

```
Leu Asp Arg Glu Leu His Thr Arg Gly Lys Leu Ser Tyr Val Leu Asp
     50                  55                  60

Gly Asp Asn Leu Arg His Gly Leu Asn Lys Asp Leu Gly Phe Lys Ala
 65                  70                  75                  80

Glu Asp Arg Ala Glu Asn Ile Arg Lys Val Gly Glu Val Ala Lys Leu
                 85                  90                  95

Phe Xaa Asp Ala Ser Leu Val Cys Ile Ala Ser Phe Lys Ser Pro Tyr
            100                 105                 110

Lys Arg Glu Arg Glu Ser
        115
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<210> 7
<211> 936
<212> DNA
<213> Glycine max

<400> 7

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gaatgcggcc cgtcgccggc ggcggagtcg ctagggtttc cgaagctccg cggaatcaac 120
gtcactggat tgcactgcgg ccgccgaggc ctcgtcctcg tcctccgtgc aaaatcaaag 180
ccgattaggg cgaaggagaa cgcaagcgta agtgcttctc tgatcgatga ctggttcaag 240
ccaattacgg cgaaggagga ttctaacgca gaggaccgta catcttcgtt ttctggtaaa 300
aatctcaccc agatgtcaaa tgttgggaac tcgacaaaca ttatgtggca tgactgtcca 360
attcagaaac aagatagaca gcagctgctt cagcaacaag gctgtgttat atggctaact 420
ggcctcagcg gatcaggaaa aagcactatt gcatgtgctc tgagtcaaag cttgcactcc 480
aaaggaaaac tgtcttacat ccttgatggt gacaatattc ggcatggtct aaaccaggat 540
cttagtttta gagcagaaga tcgttctgaa aacattagaa ggattggtga ggtggcaaaa 600
ctctttgcag atgctggtgt tatttgcatc actagtttaa tatcaccata ccaaaaggat 660
agagatgcat gcagagcact actttcaaaa ggagatttta ttgaggtttt catagatgtt 720
ccactacatg tgtgtgaagc tagggaccca aagggactct acaagcttgc tcgagctgga 780
aagatcaaag gtttcactgg tatagatgat ccatatgaac caccgtgtag ttgtgagata 840
gtattacaac agaaaggaag tgactgtaag tctcccagtg atatggctga agaagtgata 900
tcctacttgg aggagaacgg atacctgcgg gcttga                           936
```

<210> 8
<211> 311
<212> PRT
<213> Glycine max

<400> 8

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Ala Arg Ala Thr Ala Lys Ala Leu Arg Gln Pro Cys Tyr Ala Gly Ile
  1               5                  10                  15

Phe Arg Asn Ile Glu Cys Gly Pro Ser Pro Ala Ala Glu Ser Leu Gly
            20                  25                  30

Phe Pro Lys Leu Arg Gly Ile Asn Val Thr Gly Leu His Cys Gly Arg
        35                  40                  45

Arg Gly Leu Val Leu Val Leu Arg Ala Lys Ser Lys Pro Ile Arg Ala
    50                  55                  60

Lys Glu Asn Ala Ser Val Ser Ala Ser Leu Ile Asp Asp Trp Phe Lys
 65                  70                  75                  80

Pro Ile Thr Ala Lys Glu Asp Ser Asn Ala Glu Asp Arg Thr Ser Ser
```

```
                85                  90                  95

Phe Ser Gly Lys Asn Leu Thr Gln Met Ser Asn Val Gly Asn Ser Thr
            100                 105                 110

Asn Ile Met Trp His Asp Cys Pro Ile Gln Lys Gln Asp Arg Gln Gln
        115                 120                 125

Leu Leu Gln Gln Gln Gly Cys Val Ile Trp Leu Thr Gly Leu Ser Gly
    130                 135                 140

Ser Gly Lys Ser Thr Ile Ala Cys Ala Leu Ser Gln Ser Leu His Ser
145                 150                 155                 160

Lys Gly Lys Leu Ser Tyr Ile Leu Asp Gly Asp Asn Ile Arg His Gly
                165                 170                 175

Leu Asn Gln Asp Leu Ser Phe Arg Ala Glu Asp Arg Ser Glu Asn Ile
            180                 185                 190

Arg Arg Ile Gly Glu Val Ala Lys Leu Phe Ala Asp Ala Gly Val Ile
        195                 200                 205

Cys Ile Thr Ser Leu Ile Ser Pro Tyr Gln Lys Asp Arg Asp Ala Cys
    210                 215                 220

Arg Ala Leu Leu Ser Lys Gly Asp Phe Ile Glu Val Phe Ile Asp Val
225                 230                 235                 240

Pro Leu His Val Cys Glu Ala Arg Asp Pro Lys Gly Leu Tyr Lys Leu
                245                 250                 255

Ala Arg Ala Gly Lys Ile Lys Gly Phe Thr Gly Ile Asp Asp Pro Tyr
            260                 265                 270

Glu Pro Pro Cys Ser Cys Glu Ile Val Leu Gln Gln Lys Gly Ser Asp
        275                 280                 285

Cys Lys Ser Pro Ser Asp Met Ala Glu Glu Val Ile Ser Tyr Leu Glu
    290                 295                 300

Glu Asn Gly Tyr Leu Arg Ala
305                 310
```

<210> 9
<211> 928
<212> DNA
<213> Triticum aestivum

<400> 9

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tggctgccgg gaagcagccc gtcaatggat cagccatggc aggtatcgac aagcttgtga 120
cctcaactgt tgggaaatcg acaaacgttc tttggcatga ctgtccaata ggtcagtttg 180
agaggcagga actgctaaat cagaagggtt gtgttgtgtg gataacaggg ttaagtggtt 240
cagggaaaag cacactagca tgcgcgctaa gtcgcgagct gcactccaga ggtcatctga 300
cctacattct agacggtgac aatctaaggc atgggttaaa ccgagacctc tgtttcgaag 360
caaaggaccg tgctgaaaat atacgcagag taggagaagt agcaaagctg tttgcagatg 420
ctggtctgat ctgcattgct agcttgatat caccctacag aagtgaacgc agcgcttgcc 480
gcaaattact gcacaattct acattcatcg aggtgttttt gaatgtccca cttgaagttt 540
gtgaagctag ggatccaaaa ggcttgtaca agcttgcccg tgcaggaaaa atcaaagggt 600
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ttactggaat tgatgatcct tatgaagcac cttctgactg cgagatagtg atacagtgca 660
aagctggtga ctgcgccacg cctaaatcga tggctgatca agttgtgtca tatcttgaag 720
caaatgagtt cttacaggaa tagagacgta tgctatggat gaaaaaacat tctgaaattg 780
gatcgccaag ggatgtgaaa tatgaggtag tatttatgtc tagaaagagt gatgatagta 840
tgagaacata tatattgaca taaagatcga atctgtacat cattataata aattgaaatg 900
ttttgacgca aaaaaaaaaa aaaaaaaa 928

<210> 10
<211> 246
<212> PRT
<213> Triticum aestivum

<400> 10
Thr Arg Ala Asp Ala Gly Glu Arg Met Ala Gly Ser Glu Ala Val Pro
1 5 10 15

Val Val Ala Val Ala Ala Gly Lys Gln Pro Val Asn Gly Ser Ala Met
20 25 30

Ala Gly Ile Asp Lys Leu Val Thr Ser Thr Val Gly Lys Ser Thr Asn
35 40 45

Val Leu Trp His Asp Cys Pro Ile Gly Gln Phe Glu Arg Gln Glu Leu
50 55 60

Leu Asn Gln Lys Gly Cys Val Val Trp Ile Thr Gly Leu Ser Gly Ser
65 70 75 80

Gly Lys Ser Thr Leu Ala Cys Ala Leu Ser Arg Glu Leu His Ser Arg
85 90 95

Gly His Leu Thr Tyr Ile Leu Asp Gly Asp Asn Leu Arg His Gly Leu
100 105 110

Asn Arg Asp Leu Cys Phe Glu Ala Lys Asp Arg Ala Glu Asn Ile Arg
115 120 125

Arg Val Gly Glu Val Ala Lys Leu Phe Ala Asp Ala Gly Leu Ile Cys
130 135 140

Ile Ala Ser Leu Ile Ser Pro Tyr Arg Ser Glu Arg Ser Ala Cys Arg
145 150 155 160

Lys Leu Leu His Asn Ser Thr Phe Ile Glu Val Phe Leu Asn Val Pro
165 170 175

Leu Glu Val Cys Glu Ala Arg Asp Pro Lys Gly Leu Tyr Lys Leu Ala
180 185 190

Arg Ala Gly Lys Ile Lys Gly Phe Thr Gly Ile Asp Asp Pro Tyr Glu
195 200 205

Ala Pro Ser Asp Cys Glu Ile Val Ile Gln Cys Lys Ala Gly Asp Cys
210 215 220

Ala Thr Pro Lys Ser Met Ala Asp Gln Val Val Ser Tyr Leu Glu Ala
225 230 235 240

Asn Glu Phe Leu Gln Glu
245

<210> 11
<211> 521
<212> DNA
<213> Triticum aestivum

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aatcaccagt gaatagtgag atagtaatta agatggaagg tggggaatgc ccttcaccga 120
aggcaatggc ccagcaagtt ctgtcctacc ttgagaagaa cggatatttg caggcttagc 180
atatatatac tccagatcca gaagattgaa cttattcttc tgtgtccata actcatggac 240
acaggcatga tccatttggt cgcatccgga ataaaaggcg ctgttattga agcaacaagc 300
tgccttttc acggggaaag ggacgcagat cgatgatcag tttgattgtt cggcattgct 360
cctctcgcgc gtgttgtgct attttagctg tagtctatac ttgctcattt cggctgaaat 420
ggtgtgctgt gctgtgctgt gtttatttgt tggtaatgta tgatttgatt gtgggtgtca 480
aaagtacgaa tgaataaatc gtgcttgcgt tttcaaaaaa a 521

<210> 12
<211> 58
<212> PRT
<213> Triticum aestivum

<400> 12
Thr Arg Leu Ala Arg Thr Gly Lys Ile Lys Gly Phe Thr Gly Val Asp
1 5 10 15

Asp Pro Tyr Glu Ser Pro Val Asn Ser Glu Ile Val Ile Lys Met Glu
20 25 30

Gly Gly Glu Cys Pro Ser Pro Lys Ala Met Ala Gln Gln Val Leu Ser
35 40 45

Tyr Leu Glu Lys Asn Gly Tyr Leu Gln Ala
50 55

<210> 13
<211> 312
<212> PRT
<213> Catharanthus roseus

<400> 13
Met Ile Gly Ser Val Lys Arg Pro Val Val Ser Cys Val Leu Pro Glu
1 5 10 15

Phe Asp Phe Thr Glu Ser Thr Gly Leu Gly Lys Lys Ser Ser Ser Val
20 25 30

Lys Leu Pro Val Asn Phe Gly Ala Phe Gly Ser Gly Gly Gly Glu Val
35 40 45

Lys Leu Gly Phe Leu Ala Pro Ile Lys Ala Thr Glu Gly Ser Lys Thr
50 55 60

Ser Ser Phe Gln Val Asn Gly Lys Val Asp Asn Phe Arg His Leu Gln
65 70 75 80

Pro Ser Asp Cys Asn Ser Asn Ser Asp Ser Ser Leu Asn Asn Cys Asn
85 90 95

Gly Phe Pro Gly Lys Lys Ile Leu Gln Thr Thr Thr Val Gly Asn Ser

```
        100                 105                 110

Thr Asn Ile Leu Trp His Lys Cys Ala Val Glu Lys Ser Glu Arg Gln
        115                 120                 125

Glu Pro Leu Gln Gln Arg Gly Cys Val Ile Trp Ile Thr Gly Leu Ser
    130                 135                 140

Gly Ser Gly Lys Ser Thr Leu Ala Cys Ala Leu Ser Arg Gly Leu His
145                 150                 155                 160

Ala Lys Gly Lys Leu Thr Tyr Ile Leu Asp Gly Asp Asn Val Arg His
                165                 170                 175

Gly Leu Asn Ser Asp Leu Ser Phe Lys Ala Glu Asp Arg Ala Glu Asn
            180                 185                 190

Ile Arg Arg Ile Gly Glu Val Ala Lys Leu Phe Ala Asp Ala Gly Val
        195                 200                 205

Ile Cys Ile Ala Ser Leu Ile Ser Pro Tyr Arg Lys Pro Pro Asp Ala
    210                 215                 220

Cys Arg Ser Leu Leu Pro Glu Gly Asp Phe Ile Glu Val Phe Met Asp
225                 230                 235                 240

Val Pro Leu Lys Val Cys Glu Ala Arg Asp Pro Lys Gly Leu Tyr Lys
                245                 250                 255

Leu Ala Arg Ala Gly Lys Ile Lys Gly Phe Thr Gly Ile Asp Asp Pro
            260                 265                 270

Tyr Glu Pro Pro Leu Lys Ser Glu Ile Val Leu His Gln Lys Leu Gly
        275                 280                 285

Met Cys Asp Ser Pro Cys Asp Leu Ala Asp Ile Val Ile Ser Tyr Leu
    290                 295                 300

Glu Glu Asn Gly Tyr Leu Lys Ala
305                 310
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<210> 14
<211> 276
<212> PRT
<213> Arabidopsis thaliana

<400> 14

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Met Ile Ala Ala Gly Ala Lys Ser Leu Leu Gly Leu Ser Met Ala Ser
  1               5                  10                  15

Pro Lys Gly Ile Phe Asp Ser Asn Ser Met Ser Asn Ser Arg Ser Val
            20                  25                  30

Val Val Val Arg Ala Cys Val Ser Met Asp Gly Ser Gln Thr Leu Ser
        35                  40                  45

His Asn Lys Asn Gly Ser Ile Pro Glu Val Lys Ser Ile Asn Gly His
    50                  55                  60

Thr Gly Gln Lys Gln Gly Pro Leu Ser Thr Val Gly Asn Ser Thr Asn
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```
65                  70                  75                  80

Ile Lys Trp His Glu Cys Ser Val Glu Lys Val Asp Arg Gln Arg Leu
                 85                  90                  95

Leu Asp Gln Lys Gly Cys Val Ile Trp Val Thr Gly Leu Ser Gly Ser
            100                 105                 110

Gly Lys Ser Thr Leu Ala Cys Ala Leu Asn Gln Met Leu Tyr Gln Lys
        115                 120                 125

Gly Lys Leu Cys Tyr Ile Leu Asp Gly Asp Asn Val Arg His Gly Leu
    130                 135                 140

Asn Arg Asp Leu Ser Phe Lys Ala Glu Asp Arg Ala Glu Asn Ile Arg
145                 150                 155                 160

Arg Val Gly Glu Val Ala Lys Leu Phe Ala Asp Ala Gly Ile Ile Cys
                165                 170                 175

Ile Ala Ser Leu Ile Ser Pro Tyr Arg Thr Asp Arg Asp Ala Cys Arg
            180                 185                 190

Ser Leu Leu Pro Glu Gly Asp Phe Val Glu Val Phe Met Asp Val Pro
        195                 200                 205

Leu Ser Val Cys Glu Ala Arg Asp Pro Lys Gly Leu Tyr Lys Leu Ala
    210                 215                 220

Arg Ala Gly Lys Ile Lys Gly Phe Thr Gly Ile Asp Asp Pro Tyr Glu
225                 230                 235                 240

Pro Pro Leu Asn Cys Glu Ile Ser Leu Gly Arg Glu Gly Gly Thr Ser
                245                 250                 255

Pro Ile Glu Met Ala Glu Lys Val Val Gly Tyr Leu Asp Asn Lys Gly
            260                 265                 270

Tyr Leu Gln Ala
        275
```